

WHAT IS CLAIMED IS:

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1. A method for negotiating an exchange of image processing functionality between first and second devices over a bi-directional communication link, comprising the steps of:

exchanging device class modules between the first and second devices, the device class modules including information concerning relative processing power of the first and second devices;

exchanging function code descriptions between the first and second devices, the function code descriptions including information concerning functionality respectively available in the first and second devices, together with information concerning whether such functionality is exportable to other devices;

negotiating an assignment of image processing functionality between the first and second devices, with the overall image processing functionality effecting an efficient image transfer between the first and second devices; and

exchanging image processing functionality between the first and second devices in a case where the negotiated image processing functionality indicates that functionality in one of the first and second devices is needed by the other of the first and second devices.

2. A method according to Claim 1, further comprising the step of transferring image data from the first device to the second device using the negotiated assignment of functionality, including functionality that has been exported from one device to the other.

3. A method according to Claim 1, wherein said step of negotiating an assignment of functionality includes the steps of:

determining alternative processing
5 sequences for image data transfer;
applying a cost function to each
alternative; and
selecting the alternative with the lowest
cost function.

10 4. A method according to Claim 3, wherein said cost function contemplates both image transfer time and image quality.

15 5. A method according to Claim 1, further comprising the step of obtaining function code descriptions for functionality in a repository of image processing functionality, wherein said step of negotiating to assign functionality includes the
20 step of negotiating in respect of the image processing functionality exported from the repository, and wherein said step of transferring functionality includes the step of transferring functionality from the repository.

25 6. A method according to Claim 5, wherein said first and second devices retain transferred functionality for use in connection with subsequent image processing jobs.

30 7. A method according to Claim 1, wherein said first and second devices retain transferred functionality for use in connection with subsequent image processing jobs.

35 8. A network interface card for interfacing between an image processing peripheral

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and a local area network, said network interface card including:

a network protocol stack for interfacing between the local area network and the network interface card, and for receiving network communications directed to the image processing peripheral;

a device-specific application layer that provides device-specific image processing functionality for driving the image processing peripheral, the device-specific application layer receiving network communications directed to the peripheral device from the protocol stack; and

a negotiation controller for negotiating an exchange of image processing functionality between a second device on the local area network, the negotiation controller being programmed with process steps for carrying out the method of any one of Claims 1 to 7.

9. Computer-executable process steps stored on a computer readable storage medium, the computer executable process steps for negotiating an exchange of image processing functionality between first and second devices over a bi-directional communication link, said computer executable process steps including steps according to any of Claims 1 to 7.

10. A storage medium for storing computer executable process steps to effect negotiation of an exchange of image processing functionality between first and second devices over a bi-directional communication link, said process steps including steps according to any of Claims 1 to 7.

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